REMARKS/ARGUMENTS

Claims 15-28 are active in this application.

The claims are neither anticipated by nor would have been obvious in view of the cited references because, in contrast to the disclosures of Evers, Oldenhove, and Clayton, the invention as claimed alkylglycol alkoxylates or alkyldigylcol alkoxylates which are obtained by alkoxylation of C_{4-8}-alkylglycols or -diglycol with C_{2-5}-alkoxides to an average degree of alkoxylation of from 1 to 8, based on the C_{4-8}-alkylglycols or -diglycols, that are free from alcohol. Thus, by preparing alkylglycol alkoxylates or alkyldigylcol alkoxylates in this manner, the alkylglycol alkoxylates or alkyldigylcol alkoxylates are free from alcohol (as stated in the claims). In preparing the alkylglycol alkoxylates or alkyldigylcol alkoxylates according to the invention, the alcohols are not reacted (which otherwise would produce residual alcohol content), but their alkoxylation derivatives are reacted, i.e. the alkoxylates.

As shown in the table on page 7 of the application, the alkoxylates of claim 1 are free from alcohol. Notably, the second column shows the distribution of homologs of n-hexanol that is alkoxylated with 3 equivalents of ethylene oxide. The table shows that residual n-hexanol is present in an amount of 2.4 %. In contrast, in the third column the distribution of homologs of a mixture that is obtained by alkoxylation of n-hexylglycol with two equivalents of ethylene oxide and shows that no residual n-hexanol is present.

The cited references disclose that suitable alkoxylates can be prepared by alkoxylation of the corresponding alcohols with alkylene oxides like ethylene oxide, propylene oxide and others. Specifically, Evers describes that the short chain non-ionic surfactant is an alkyl ether carboxylate (page 2, lines 40-45) which are prepared by known processes, including condensation of the corresponding alcohol and alkylene oxide (page 3, lines 32-34), which as discussed above results in residual alcohol making the Evers compositions different from the claimed composition. Moreover, the process limitations set forth in the claims defines the

manner in which the claimed compositions are free from alcohol. As Evers sets forth the manner in which the compositions are to be obtained, that procedure would necessarily result in alcohol remaining in the composition, and there is nothing in Evers which would give one any reason to prepare alkylglycol alkoxylates or alkyldigylcol alkoxylates in any other way so as to avoid the presence of alcohol, the claims would not have been obvious in view of Evers as well.

Oldenhove describes a composition an aqueous near tricritical point composition that includes a series of specified components, including water soluble or water low molecular weight dispersible amphiphile (see page 4, lines 46-56). While Oldenhove does not describe how the amphiphile is prepared, it is apparent from the referenced examples in the Table on page 10 that alcohols are desirably present in many of the compositions. Therefore, unlike the alkylglycol alkoxylates or alkyldigylcol alkoxylates as claimed, the Oldenhove compositions are not free from alcohol. As Oldenhove specifically teaches the inclusion of alcohol in the compositions and there is no disclosure for a methodology for preparing the amphiphil, those are likely produced by known protocols, like Evers above, which condensation of the corresponding alcohol and alkylene oxide. As there is no other disclosure which would lead one to prepare alkylglycol alkoxylates or alkyldigylcol alkoxylates in the manner as claimed resulting in a composition free from alcohol, the claims would not have been obvious in view of Oldenhove as well.

Clayton describes a composition of a surfactant, water and at least one solvent of formula I-VI (see abstract and columns 1 and 2). According to column 4, line 34, for the preparation of glycol mono-ethers of formula IV, V and VI alcohol or an alkylether of mono-, di-, or tri-ethylene (or propylene) glycol react with a C_4 or longer carbon chain alkylene oxide. In fact, Clayton describes the inclusion of alcohols as a particularly preferred component in the described compositions. (column 6, lines 17 to 20, 25 to 31 and 55 to 59).

Thus, it is readily apparent that the Clayton compositions contain alcohol and there is nothing which would lead one to avoid alcohol to achieve the claimed compositions.

As discussed above, the homolog distribution of the alkoxylates according to claim 1 is important for the aggregation behavior and the other properties (see also page 7, lines 12 to 13 in the specification). The homolog distribution is shown in the table on page 7. Whereas a sample prepared by alkoxylation of n-hexanol with 3 equivalents of alkylene oxide shows a residual alcohol amount of 2.4 % and a distribution in which homologs containing 1, 2, 3, 4, 5 and 6 equivalents of ethylene oxides are substantially present in nearly the same amounts, the sample according to the present invention, prepared by alkoxylation of n-hexylglycol with 2 equivalents of ethylene oxide shows no residual alcohol. Moreover, the homolog distribution having the largest amount of homologues containing 2, 3 and 4 equivalents of ethylene oxide and homologs containing 1, 5 and 6 equivalents of ethylene oxide in minor amounts. In addition, the amount of remainder is only 7%, whereas the amount of remainder of the comparative sample is 29.9%.

Since no alcohols are present in the product mixture according to claim I, it is substantially odor-free, which makes it very suitable for use in household applications. A second advantage of the absence of alcohol is, that the alkylglycol alkoxylates or alkyldigylcol alkoxylates according to claim 1 are non-toxic, which is important characteristic for household applications.

Furthermore, alkylglycol alkoxylates and alkyldigylcol alkoxylates according to claim 1 can advantageously be used for paper finishing, e.g. spray coating applications. This can be shown by the examples on pages 14 and 15 of the description. The mottle indices in table 1 on page 15 show that the presence of hexylglycol alkoxylate according to claim 1 results in an significant decrease of the mottle index, which corresponds to an improved uniformity of

the printing image on the treated paper. Therefore, alkoxylates according to claim 1, when used as paper coatings, cause improved printing quality.

Evers, Oldenhove, and Clayton et al. fail to provide any descriptioni that would lead one to the alkylglycol alkoxylates or alkyldiglycol alkoxylates which are free from alcohol that, in turn, have significant advantages, as discussed above. In fact, Clayton's disclosure would lead one to include alcohol in view of the examples and the explicit teaching found in col. 6.

Therefore, the alkoxylates claimed, mixtures containing these alkoxylates according to claims 2 to 6 and 9 to 14, and the methods of reducing the interfacial tension and accelerating the establishment of the interfacial tension in aqueous surfactant formulations and the method of lowering the viscosity of surfactant-containing formulations comprising contacting these aqueous surfactant formulations with certain alkoxylates, according to claims 7 and 8 of the present application are not obvious in light of Clayton, Evers, or Oldenhove.

In summary, the Evers and Oldenhove alkoxylates contain a certain amount of unreacted alcohol, as shown in the table on page 7 of the description making it different from the alkylglycol alkoxylates or alkyldigylcol alkoxylates free of alcohol as claimed. Clayton describes that certain glycol ethers can be obtained by alkoxylation of the corresponding mono-, di- or triethylene glycol with a C_4 or longer carbon chain alkylene oxide. Clayton do not describe alkylglycol alkoxylates or alkyldigylcol alkoxylates that are free from alcohol as claimed. In fact, in column 6, Clayton describes that the presence of certain alcohols is desirable. As the prior art provides no teaching that would lead one to the alkylglycol alkoxylates or alkyldigylcol alkoxylates that are free from alcohol as claimed nor is there any discussion in the cited references for the significant advantages resulting from the claimed

compositions, the claims cannot be considered anticipated by or obvious in view of the cited Evers, Oldenhove, and Clayton references.

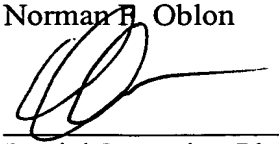
In view of the above, Applicants request withdrawal of the rejections based on these three references.

Turning to the rejection under the doctrine of obviousness-type double patenting in view of Claims 1-21 of US 6,680,412, Applicants request that this rejection be withdrawn as well. Notably, the alcohol alkolyates as claimed in the '412 patent are prepared by reacting an alcohol with a C_{3-6}alkylene oxide (see claim 7). As discussed in detail above, referencing the specification, preparing the alkoylates in this manner yields a composition including residual alcohol, which is different from the material claimed (i.e., free from alcohol). Also as discussed above, the avoidance of alcohol in the claimed composition results in a number of advantages that are not seen from the claims of the '412 patent. Withdrawal of this rejection is requested.

Finally, Applicants request allowance of the claims.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon



Daniel J. Pereira, Ph.D.
Registration No. 45,518

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)